

under 37 C.F.R. § 1.136(a), and any fees required therefor (including fees for net addition of claims) are hereby authorized to be charged to our Deposit Account No. 19-0036.

Amendments

In the Specification:

On page 73, lines 21-22, please replace the paragraph with

~~- Oligonucleotide #8 (SEQ ID NO:24).- -~~

In the Title:

Please substitute the following Title of the Invention for the pending Title of the Invention:

~~**Compositions of Reverse Transcriptases and Mutants Thereof - -**~~

In the Claims:

Please amend the following claims:

Please substitute the following claim 119 for the currently pending claim 119:

119. (Once amended) The composition of claim 117, wherein said reverse transcriptases are selected from the group consisting of Moloney Murine Leukemia Virus (M-MLV), Avian Sarcoma-Leukosis Virus (ASLV), Rous Sarcoma Virus (RSV), Avian Myeloblastosis Virus (AMV), Rous Associated Virus (RAV), Myeloblastosis Associated Virus (MAV), and Human Immunodeficiency Virus (HIV) reverse transcriptases.

Please substitute the following claim 120 for the currently pending claim 120:

120. (Once amended) The composition of claim 117, wherein said reverse transcriptases comprise an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

Please substitute the following claim 126 for the currently pending claim 126:

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126. (Once amended) The composition of any one of claims 122-124, wherein at least one of said reverse transcriptase comprises an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

Please substitute the following claim 134 for the currently pending claim 134:

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134. (Once amended) The kit of claim 131, wherein said reverse transcriptases comprise an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

Please substitute the following claim 140 for the currently pending claim 140:

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140. (Once amended) The kit of any one of claims 136-138, wherein at least one of said reverse transcriptases comprises an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

Please substitute the following claim 148 for the currently pending claim 148:

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148. (Once amended) A recombinant ASLV reverse transcriptase, wherein said ASLV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram and said ASLV reverse transcriptase does not contain a mutation that reduces RNase H activity.

Please substitute the following claim 150 for the currently pending claim 150:

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150. (Once amended) The ASLV reverse transcriptase of claim 148, wherein said ASLV reverse transcriptase comprises an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

[Please substitute the following claim 151 for the currently pending claim 151:]

151. (Once amended) The ASLV reverse transcriptase of claim 148, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 152 for the currently pending claim 152:]

152. (Once amended) The ASLV reverse transcriptase of claim 148, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 153 for the currently pending claim 153:]

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153. (Once amended) The ASLV reverse transcriptase of claim 148, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 154 for the currently pending claim 154:]

154. (Once amended) The ASLV reverse transcriptase of claim 148, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 156 for the currently pending claim 156:

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156. (Once amended) A composition comprising a recombinant ASLV reverse transcriptase, wherein said ASLV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram and said ASLV reverse transcriptase does not contain a mutation that reduces RNase H activity.

Please substitute the following claim 159 for the currently pending claim 159:

159. (Once amended) The composition of claim 156, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 160 for the currently pending claim 160:]

160. (Once amended) The composition of claim 156, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

C⁹ [Please substitute the following claim 161 for the currently pending claim 161:]

161. (Once amended) The composition of claim 156, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 162 for the currently pending claim 162:]

162. (Once amended) The composition of claim 156, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 164 for the currently pending claim 164:

C¹⁰ 164. (Once amended) A kit comprising a recombinant ASLV reverse transcriptase, wherein said ASLV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram and said ASLV reverse transcriptase does not contain a mutation that reduces RNase H activity.

Please substitute the following claim 166 for the currently pending claim 166:

166. (Once amended) The kit of claim 164, wherein said ASLV reverse transcriptase comprises an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

[Please substitute the following claim 167 for the currently pending claim 167:]

167. (Once amended) The kit of claim 164, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 168 for the currently pending claim 168:]

168. (Once amended) The kit of claim 164, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

C¹¹ [Please substitute the following claim 169 for the currently pending claim 169:]

169. (Once amended) The kit of claim 164, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 170 for the currently pending claim 170:]

170. (Once amended) The kit of claim 164, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 175 for the currently pending claim 175:

175. (Once amended) A recombinant ASLV reverse transcriptase produced by a method comprising

(a) obtaining a host cell comprising one or more nucleic acid sequences encoding at least one ASLV reverse transcriptase; and

(b) culturing said host cell under conditions sufficient to produce said ASLV reverse transcriptase; and

(c) isolating or purifying said reverse transcriptase thereby obtaining said reverse transcriptase wherein said ASLV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram and said ASLV reverse transcriptase does not contain a mutation that reduces RNase H activity.

Please substitute the following claim 177 for the currently pending claim 177:

177. (Once amended) The ASLV reverse transcriptase of claim 175, wherein said ASLV reverse transcriptase comprises an ASLV α subunit, an ASLV β subunit, an ASLV β p4 subunit, or a combination thereof.

[Please substitute the following claim 178 for the currently pending claim 178:]

178. (Once amended) The ASLV reverse transcriptase of claim 175, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 179 for the currently pending claim 179:]

179. (Once amended) The ASLV reverse transcriptase of claim 175, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 180 for the currently pending claim 180:]

180. (Once amended) The ASLV reverse transcriptase of claim 175, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

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Cont [Please substitute the following claim 181 for the currently pending claim 181:]

181. (Once amended) The ASLV reverse transcriptase of claim 175, wherein said ASLV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 183 for the currently pending claim 183:

183. (Once amended) A recombinant Avian Myeloblastosis Virus (AMV) reverse transcriptase, wherein said AMV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram.

c14 [Please substitute the following claim 184 for the currently pending claim 184:]

184. (Once amended) The AMV reverse transcriptase of claim 183, wherein said AMV reverse transcriptase comprises an AMV α subunit, an AMV β subunit, an AMV $\beta p4$ subunit, or a combination thereof.

[Please substitute the following claim 185 for the currently pending claim 185:]

185. (Once amended) The AMV reverse transcriptase of claim 183, wherein said AMV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 186 for the currently pending claim 186:]

186. (Once amended) The AMV reverse transcriptase of claim 183, wherein said AMV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 187 for the currently pending claim 187:]

187. (Once amended) The AMV reverse transcriptase of claim 183, wherein said AMV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

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[Please substitute the following claim 188 for the currently pending claim 188:]

188. (Once amended) The AMV reverse transcriptase of claim 183, wherein said AMV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 190 for the currently pending claim 190:

190. (Once amended) A composition comprising a recombinant AMV reverse transcriptase, wherein said AMV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram.

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[Please substitute the following claim 191 for the currently pending claim 191:]

191. (Once amended) The composition of claim 190, wherein said AMV reverse transcriptase comprises an AMV α subunit, an AMV β subunit, an AMV β p4 subunit, or a combination thereof.

[Please substitute the following claim 192 for the currently pending claim 192:]

192. (Once amended) The composition of claim 190, wherein said AMV

reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 193 for the currently pending claim 193:]

193. (Once amended) The composition of claim 190, wherein said AMV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 194 for the currently pending claim 194:]

194. (Once amended) The composition of claim 190, wherein said AMV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

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[Please substitute the following claim 195 for the currently pending claim 195:]

195. (Once amended) The composition of claim 190, wherein said AMV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 197 for the currently pending claim 197:

197. (Once amended) A kit comprising a recombinant AMV reverse transcriptase, wherein said AMV reverse transcriptase has a polymerase specific activity of at least about 30,000 units per milligram.

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Please substitute the following claim 199 for the currently pending claim 199:

199. (Once amended) The kit of claim 197, wherein said AMV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to

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about 150,000 units per milligram.

[Please substitute the following claim 200 for the currently pending claim 200:]

200. (Once amended) The kit of claim 197, wherein said AMV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 201 for the currently pending claim 201:]

201. (Once amended) The kit of claim 197, wherein said AMV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 202 for the currently pending claim 202:]

202. (Once amended) The kit of claim 197, wherein said AMV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.

Please substitute the following claim 207 for the currently pending claim 207:

207. (Once amended) A recombinant AMV reverse transcriptase produced by a method comprising

- (a) obtaining a host cell comprising one or more nucleic acid sequences encoding at least one AMV reverse transcriptase; and
- (b) culturing said host cell under conditions sufficient to produce said AMV reverse transcriptase; and
- (c) isolating or purifying said reverse transcriptase thereby obtaining said reverse transcriptase wherein said AMV reverse transcriptase has a polymerase

specific activity of at least about 30,000 units per milligram.

[Please substitute the following claim 208 for the currently pending claim 208:]

208. (Once amended) The AMV reverse transcriptase of claim 207, wherein said AMV reverse transcriptase comprises an AMV α subunit, an AMV β subunit, an AMV β p4 subunit, or a combination thereof.

[Please substitute the following claim 209 for the currently pending claim 209:]

209. (Once amended) The AMV reverse transcriptase of claim 207, wherein said AMV reverse transcriptase has a polymerase specific activity of about 30,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 210 for the currently pending claim 210:]

210. (Once amended) The AMV reverse transcriptase of claim 207, wherein said AMV reverse transcriptase has a polymerase specific activity of about 40,000 units per milligram to about 150,000 units per milligram.

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[Please substitute the following claim 211 for the currently pending claim 211:]

211. (Once amended) The AMV reverse transcriptase of claim 207, wherein said AMV reverse transcriptase has a polymerase specific activity of about 50,000 units per milligram to about 150,000 units per milligram.

[Please substitute the following claim 212 for the currently pending claim 212:]

212. (Once amended) The AMV reverse transcriptase of claim 207, wherein said AMV reverse transcriptase has a polymerase specific activity of about 75,000 units per milligram to about 150,000 units per milligram.
